CLAIMS

1. A quantizer for use with a delta-sigma analog-to-digital converter, said quantizer comprising:

first and second comparators adapted to compare an input analog signal to a threshold and provide a digital output in response thereto;

means for providing first and second thresholds to said first and second comparators respectively; and

means for changing said first or said second threshold.

2. The invention of Claim 1 wherein said means for providing said first and second thresholds are first and second digital-to-analog converters, respectively.

3. The invention of Claim 2 wherein said means for changing said first or said second threshold is a logic circuit that provides a digital input for said first or said second digital-to-analog converter.

4. The invention of Claim 3 wherein said circuit is an error shaping circuit.

5. The invention of Claim 3 wherein said logic circuit is a digital-to-analog converter element selection logic circuit.

6. A delta-sigma analog-to-digital converter comprising:

first means for combining a feedback signal with a signal representative of an input signal to provide an intermediate signal;

second means for quantizing said intermediate signal and providing an output signal, said quantizer comprising:

first and second comparators adapted to compare said intermediate

signal to a threshold and provide a digital output in response thereto and

first and second digital-to-analog converters for providing first and second thresholds to said first and second comparators respectively;

third means for feeding said output signal back to said means for combining; and

fourth means responsive to said output signal for providing an input to said first and second digital-to-analog converters.

7. The invention of Claim 6 further including an integrator disposed between said first means and said second means.

8. The invention of Claim 6 further including a mutual transconductance for converting an analog input voltage to an analog output current to provide said signal representative of an input signal.

9. The invention of Claim 6 further including means associated with each comparator for storing the output thereof.

10. The invention of Claim 9 wherein said means for storing is a set of latches.

11. The invention of Claim 10 further including a current source and switch means, responsive to said latches for connecting said current source to an output terminal.

12. A quantization method for use with a delta-sigma analog-to-digital converter, said method comprising the steps of:

comparing an input analog signal to a threshold with first and second comparators to provide a digital output signal;

providing first and second thresholds to said first and second comparators respectively; and

selectively changing said first or said second threshold to minimize conversion error.

13. A method for analog-to-digital conversion including the steps of:

combining a feedback signal with a signal representative of an input signal to provide an intermediate signal;

quantizing said intermediate signal and providing an output signal first and second comparators adapted to compare said intermediate signal to first and second thresholds and provide digital output signals in response thereto;

providing first and second thresholds to said first and second comparators via first and second digital-to-analog converters respectively; and

providing an input to said first and second digital-to-analog converters in response to the output signals.